

PRODUCT INFORMATION

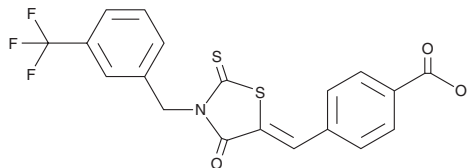


CY-09

Item No. 33353

CAS Registry No.: 1073612-91-5
Formal Name: 4-[[4-oxo-2-thioxo-3-[[3-(trifluoromethyl)phenyl]methyl]-5-thiazolidinylidene]methyl]-benzoic acid

MF: C₁₉H₁₂F₃NO₃S₂
FW: 423.4
Purity: ≥95%
UV/Vis.: λ_{max}: 277, 369, 384 nm
Supplied as: A crystalline solid
Storage: -20°C
Stability: ≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

CY-09 is supplied as a crystalline solid. A stock solution may be made by dissolving the CY-09 in the solvent of choice, which should be purged with an inert gas. CY-09 is soluble in organic solvents such as DMSO and dimethyl formamide. The solubility of CY-09 in these solvents is approximately 15 and 30 mg/ml, respectively.

Description

CY-09 is a NOD-like receptor protein 3 (NLRP3) inhibitor.¹ It selectively inhibits NLRP3 ATPase activity over the ATPase activity of NLRP1, NLRC4, NOD2, and RIG-I at 1 μM. CY-09 binds directly to the ATP-binding motif of the NLRP3 NACHT domain (K_d = 500 nM) and suppresses NLRP3 inflammasome assembly. It inhibits NLRP3 inflammasome activation induced by nigericin (Item No. 11437) in THP-1 cells when used at a concentration of 1 μM. CY-09 (5 mg/kg, i.p.) improves the left ventricle ejection fraction (LVEF) and left ventricle fractional shortening (LVFS) and reduces myocardial fibrosis in a mouse model of myocardial infarction induced by left anterior descending (LAD) coronary artery occlusion.² It also reduces hepatic steatosis in a high-fat diet-induced mouse model of non-alcoholic fatty liver disease (NAFLD) when administered at a dose of 2.5 mg/kg.³

References

1. Jiang, H., He, H., Chen, Y., *et al.* Identification of a selective and direct NLRP3 inhibitor to treat inflammatory disorders. *J. Exp. Med.* **214**(11), 3219-3238 (2017).
2. Gao, R.-F., Li, X., Xiang, H.-Y., *et al.* The covalent NLRP3-inflammasome inhibitor Oridonin relieves myocardial infarction induced myocardial fibrosis and cardiac remodeling in mice. *Int. Immunopharmacol.* **90**, 107133 (2021).
3. Wang, X., Sun, K., Zhou, Y., *et al.* NLRP3 inflammasome inhibitor CY-09 reduces hepatic steatosis in experimental NAFLD mice. *Biochem. Biophys. Res. Commun.* **534**, 734-739 (2021).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

WARRANTY AND LIMITATION OF REMEDY

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